

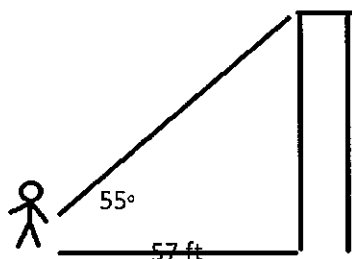
Applying Trig

G44

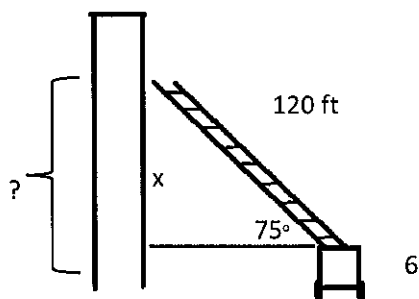
Name _____

For each problem, show at least a set up, one solving step, and the answer. Clearly note whether you are using sine, cosine, or tangent. Round all answers to one decimal place.

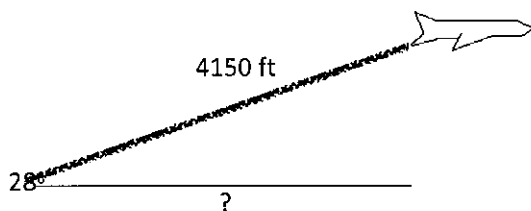
- 1.) At 57 feet from the base of a building, you need to look up at 55° to see the top. How tall is the building?



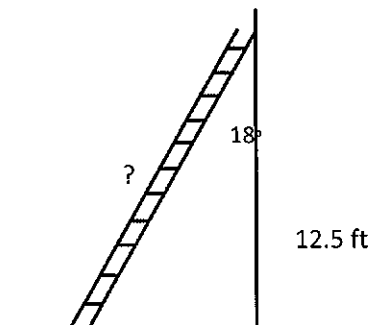
- 2.) A ladder is mounted on a fire truck, six feet above the ground. If the maximum length of the ladder is 120 ft. and the maximum angle to which it can be raised from the truck is 75° , how high up on the wall will it reach?



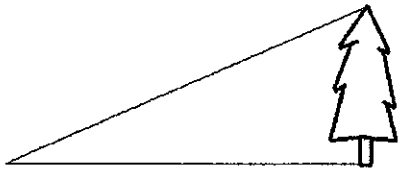
- 3.) A plane takes off from an airport and flies 4150 feet through the air. If it has been raising at an angle of 28° , how far has it travelled horizontally?



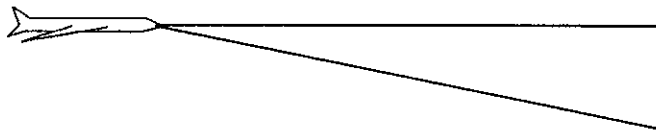
- 4.) A ladder is leaning against the side of a house. If the ladder reaches 12.5 feet up the side, and the angle between the ladder and the wall is 18° , then how long is the ladder?



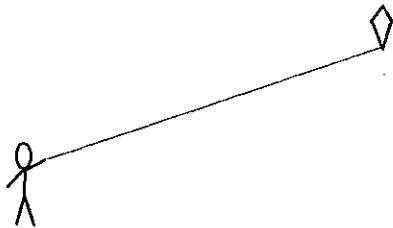
- 5.) A point is 43 feet from the base of a tree. The angle of elevation to the top of the tree is 30° . How tall is the tree? Label the diagram before you begin.



- 6.) An airplane begins its final descent towards an airport. It needs to drop 850 feet in the next 3000 horizontal feet. At what angle of depression does the plane need to fly? Label the diagram before you begin.



- 7.) A person flying a kite has released 176 meters of string. The string makes a 27° angle to the ground. How high is the kite? Label the diagram before you begin.



9.) From a horizontal distance of 80 meters, the angle of elevation to the top of a flagpole is 18° . How tall is the flagpole? Before you begin, draw the diagram and label it.

10) A 10 foot ladder is resting against the side of a wall. If the angle between the ladder and the ground is 79° , how high up the wall is the ladder reaching? Draw and label your diagram before you begin.

11) An airplane climbs at an angle of 13° . What is the distance it has travelled horizontally when it has reached a height of 400 feet? Draw and label your diagram before you begin.

12) A wheelchair ramp is 4.2 meters long and rises 0.7 meters. What is the angle of elevation? Draw and label your diagram before you begin.

that includes an angle of depression.

13.) Invent and solve your own word problem. Draw a picture to go along with it. Be creative!

<u>Question</u>	<u>Picture</u>
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<u>Solution</u>	